WEST Search History

TE: Wednesday, January 22, 2003

updated 9/22/03

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=OR		
L33	L32 and teflon	20	L33
L32	L31 and (gel same support)	482	L32
L31	L30 and substrate	5677	L31
L30	L28 and ((wound near dressing) or transdermal)	10825	L30
L29	L28 and ((wound near dressing) or (electrode) or transdermal or patch)	23695	L29
L28	((method or process) near (prepar$ or making)) and (hydrogel or gel)	149357	L28
L27	L26 and substrate	158	L27
L26	L25 and teflon	228	L26
L25	l21 and (hydrogel or gel)	1429	L25
L24	l21 and l22	2	L24
L23	teflon same (gel near preparation)	8	L23
L22	teflon and (gel near preparation)	184	L22
L21	((method or process) near (prepar$ or making)) same electrodes	13201	L21
L20	((method or process) near (prepar$ or making))	669092	L20
L19	L18 same (support or web or base)	26	L19
L18	((method or process) near making near (gel or hydrogel))	443	L18
L17	L16 same support	12	L17
L16	((method or process) near making near gel)	358	L16
L15	l1 and ((method or process) near making near gel)	16	L15
L14	l2 and (gel near mixture)	29	L14
L13	l2 and (gel near mixture)	29	L13
L12	l2 and (gel near misture)	0	L12
L11	L10 near hugh	13	L11
L10	munro.in.	1076	L10
L9	munro,in.	0	L9
L8	L7 and l1	1	L8
L7	gel near coat$ near substrate	101	L7
L6	L4 and (support and substrate)	59	L6
L5	L4 (support and substrate)	198305	L5
L4	L3 and (gel or hydrogel)	121	L4
L3	L2 and (shrink$ or distort$)	223	L3
L2	L1 and ((method or process) near making)	1165	L2
L1	wound near dressing	6231	L1

L3: Entry 19 of 184 File: PGPB May 16, 2002

DOCUMENT-IDENTIFIER: US 20020058893 A1
TITLE: Decorative adhesive bandage kit

Detail Description Paragraph (6):
[0028] Bandage 1 also comprises a pair of adhesive protecting release tabs 5, 6 which may be made, e.g., from paper having a silicone release material coated thereon. Alternatively, the release tabs may be made of a low surface energy plastic film such as polyethylene or polystyrene which, if desired, may have a silicone release material or the like applied thereto. It will be understood that the release coated surface of tabs 5, 6 will contact adhesive 3 and the release coating on release tabs 5, 6 will be such that adhesive 3 will remain on bandage backing 2 rather than on the release tabs when those tabs are removed to expose the adhesive prior to application of the bandage to the skin.

L5: Entry 31 of 34 File: USPT Jun 5, 1990

DOCUMENT-IDENTIFIER: US 4931282 A
**** See image for Certificate of Correction ****
TITLE: Pressure-sensitive medical sealant

Abstract Text (1):
A pressure-sensitive medical sealant composition comprising (a) a crosslinked, swellable polymeric matrix made from an N-vinyl lactam monomer and a multi-ethylenically unsaturated compound, wherein the ethylenic groups are vinyl groups, allyl groups or methallyl groups, which groups are bonded to nitrogen or oxygen atoms; (b) a plasticizer; and (c) an antimicrobial. The medical sealant is highly moisture vapor transmissive and is capable of incorporating large concentrations of iodine. The composition can be used in a variety of medical applications including as a teat plug, a wound or burn dressing, or as a sealant to seal junctions between medical instruments penetrating the skin and the skin. A method of preparing the medical sealant composition in a caulkable form is also disclosed.

Brief Summary Text (4):
Catheter related septicemia is a serious problem potentially affecting an estimated 160 million catheter starts yearly in the U.S. alone. Evidence to date suggests that organisms invade at the catheter site to initiate a local infection. Topical antimicrobials including "Neosporin.RTM. Ointment" commercially available from Burroughs Welcome Co., Research Triangle Park, N.C., and iodophor ointments are widely used in an attempt to provide some protection from microbial invasion. Clinical studies attempting to determine the efficacy of these topical ointments has shown them to be of modest or no benefit in reducing rates of infection (Zinner, S. H., B. C. Denny-Brown, P. Braun, J. P. Burke, P. Toala and E. H. Kass. 1969. "Risk of Infection with Intravenous Indwelling Catheters: Effect of Application of Antibiotic Ointment." The Journal of Infectious Diseases. 120: 616-619; Morden, Carl W. 1969. "Application of Antibiotic Ointment to the Site of Venous Catheterization-A Controlled Trial". The Journal of Infectious Diseases. 120: 611-615; Maki, Dennis G. and Jeffrey D. Band. 1981. "A Comparative Study of Polyantibiotic and Iodophor Ointments in Prevention of Vascular Catheter-Related Infection". The American Journal of Medicine. 70: 739-744). Suggested reasons for the marginal benefits of these ointments have been proposed in the literature. The leading suspect is that since these ointments are petroleum jelly based, they are occlusive and not moisture vapor transmissive. Moisture from the body builds up under the ointment creating a beneficial environment for the bacteria and a pathway to the catheter. Additionally, ointments are greasy and poorly compatible with the transparent dressings or gauze and tape normally used to dress catheters. The ointment will either become absorbed by the gauze or dressing material, thereby not remaining at the site, or the ointments will undermine the adhesion of the transparent dressing and migrate under the dressing, again not remaining in place. This migration of the ointment creates lifting of the dressing and exposes the site to additional contamination. In addition, the antibiotic based ointments are ineffective on resistant bacteria and fungi. In fact in a study by S. H. Zinner et al (supra), 30% of the organisms isolated from catheter tips were resistant to the antibiotic ointment.

Brief Summary Text (5):
Other known medical sealants include one disclosed in U.S. Pat. No. 4,621,029 and comprised of a polysiloxane gel. The sealant is water-repellant and, thus, poorly moisture vapor transmissive. Accordingly moisture from the body can collect under this sealant, creating a beneficial environment for bacteria. Furthermore,

polysiloxane gels are not capable of complexing with iodine, a substance which exhibits broad-spectrum antimicrobial activity when placed in contact with mammalian skin.

Brief Summary Text (6):
U.S. Pat. No. 4,364,929 discloses a lubricating gel comprising a physiologically compatible colloidal gel-forming polymer, water and an iodophor or a substance capable of forming an iodophor with iodine. These gels are described as lubricants, indicating that they would not have adhesive properties and would be greasy, and therefore incompatible with conventional wound dressings.

Brief Summary Text (9):
Another art involving polymeric matrices that are swelled in water is the hydrogel art. These compositions are covalently crosslinked and are used extensively in contact lenses. Many of these hydrogels are based on polyvinylpyrrolidone and have been extensively used in medical applications. Because of the long experience with use of polyvinylpyrrolidone in medical applications its safety is well known making it a desirable candidate for biocompatible adhesives. While most hydrogels are not adhesive, EPO Appln. No. 83305770.6 (publication 0107376, 02/05/84) describes a hydrogel which has some tack and is recommended for use as a wound dressing. The hydrogel is prepared by dissolving between 15% and 25% by weight polyvinylpyrrolidone in water and crosslinking with ionizing irradiation (1 to 5 Mrads, electron beam). Here again the ionizing radiation process is not desirable.

Brief Summary Text (12):
U.S. Pat. No. 3,294,765 discloses polymeric matrices of N-vinyl lactams crosslinked with 3,3'-ethylidene bis(N-vinyl-2-pyrrolidone). The patent indicates that polymeric matrices with mechanical properties ranging from thickened solutions to intractable gels are obtained depending on the relative amount of crosslinker used. None are reported to be adhesive.

Brief Summary Text (46):
Additives can be incorporated in the medical sealant compositions of this invention to improve the sealants' physical or antimicrobial properties. For example, where iodine is used as the antimicrobial, the addition of sodium iodide enhances the solubility of the iodine and reduces the free iodine concentration. Buffering the pH of the sealant composition is useful for providing a non-irritating composition for sensitive skin, or for maximizing the antimicrobial activity. Exemplary buffers include those based upon citric acid, boric acid, sodium carbonate and disodium phosphate, such as McIlvaine's Buffer (citric acid-phosphate) and Giffords, Buffer (boric acid-sodium carbonate). The incorporation of surfactants (e.g. "Pluronic.RTM. F68 Surfactant", commercially available from BASF Corp., Parsippany, N. J.) modify the surface tension of the sealant compositions and enable them to wet catheter substrates which are usually made of low surface energy plastics, such as polytetrafluoroethylene, polyethylene, polypropylene and various silicones. As mentioned previously, surfactants can also be used to emulsify antimicrobials which are not soluble in the plasticizer. The additives may be added either to the polymer precursor, when the additive does not interfere with or is not affected by the polymerization, or may be added to the plasticizer or the polymerized medical sealant composition.

Brief Summary Text (54):
Depending on the crosslink density and the percent by weight polymer solids in the compositions of the present invention, gels with a wide range of properties can be produced. These properties may range from tacky to non-tacky and from firm and cohesive to caulkable semifluids. For example, when the plasticizer is 80 percent by weight glycerol and 20 percent water and the concentration of 3,3'-ethylidene bis(N-vinyl-2-pyrrolidone) is 0.04 percent by weight of the polymer precursor, as the percent polymer solids increases from about 2.5 percent to about 30 percent, the cohesive strength of the composition varies between that of the plasticizer alone, and that of a marshmallow, or 3.5 (when measured according to the procedure of Examples 3-42); the tack of the composition varies between that of the plasticizer alone and that of "3M's Scotch.RTM. brand Magic Mending Tape" (when measured by tactile perception); the stringiness of the composition varies between that of the plasticizer alone and 5 (measured according to the procedure of Examples 3-42); and

the flow time (measured in time to extrude one milliliter of the composition thru a three millimeter diameter hole using an extrusion pressure of 775 g/1.8 cm.sup.2) varies from about 0.1 second to 2000 seconds.

Brief Summary Text (59):
1/MVTR (Film) + 1/MVTR (Adhesive)= 1/MVTR (Laminate) The MVTR of a 0.0254mm thick "Hytrel.RTM. Film" is 1,830 g/m.sup.2 /24 hours. The MVTR of a 0.32 cm thick gel prepared according to Example 1 is 3,814 g/m.sup.2 /24 hours. Accordingly, a laminate of "Hytrel.RTM. Film" and the gel layer of Example 1 is calculated by the above formula to be 1,240 g/m.sup.2 /24 hours. However, when actually measured (see Example 99) the MVTR of the laminate was 2,680 g/m.sup.2 /24 hours; more than twice its calculated value. Apparently the compositions of the present invention increase the "Hytrel.RTM.Film's" affinity for water, thus, dramatically increasing the transmission of moisture through the laminate.

Brief Summary Text (61):
The compositions of the present invention can be utilized in a variety of medical applications. As previously mentioned, the medical sealant composition can be formulated so as to be useful as a caulkable sealant for sealing junctions between living skin and a medical instrument penetrating through the skin, such as a catheter. The compositions of this invention could also be utilized as a surgical skin prepping gel, or as a teat plug for preventing mastitis in cows. The gels of this invention when reinforced with an appropriate backing sheet, for example, plastic film such as polyester, polyethylene, woven or non-woven sheet made of natural or synthetic fibers, would find use as burn or wound dressings.

Brief Summary Text (62):
The following examples illustrate the medical sealant compositions of this invention. All parts are by weight unless otherwise noted. Examples 1-48 illustrate polymerization of the N-vinyl lactam, in solution (Examples 1 and 43) or in bulk conditions (Examples 2-42 and 44-48). Examples 49 and 50 illustrate polymerization of the N-vinyl lactam in the presence of the antimicrobial. Examples 51-80, and 91 illustrate addition of the antimicrobial to the powdered polymeric matrix. Examples 81-83, 92-96, 98 and 99 illustrate addition of the antimicrobial to the polymer gel. Examples 84-90 illustrate the use of additives. Example 97 and 100 illustrate the antimicrobial activity of the compositions of this invention. Examples 101 and 102 illustrate the high moisture vapor transmission rate (MVTR) of the compositions of this invention. Example 103 illustrates the adhesive properties of the compositions of this invention.

Detailed Description Text (2):
A mixture of 20 parts of N-vinyl-2-pyrrolidone, 0.2 parts of 2-hydroxy-2-methyl-1-phenyl-1-propanone, 0.032 parts of 3,3'-ethylidene bis(N-vinyl-2-pyrrolidone), 33.2 parts of glycerol and 8.4 parts of water was placed in a flat dish at a thickness of 1.3 cm and was irradiated through a 0.5 cm thick quartz plate with a broad spectrum 75 watt ultraviolet lamp commercially available as a "Sylvania.RTM. Sunlamp 052", from GTE Sylvania Inc., Manchester, N.H., at a distance of 40 cm for about 20 minutes until the product had gelled and was fully cured. The gel was soft, conformable and adhesive, as determined by tactile perception.

Detailed Description Text (6):
These examples illustrate the effect of changing the amount of the crosslinker, 3,3'-ethylidene bis(N-vinyl-2-pyrrolidone) (EBVP) on the properties of the gels of this invention.

Detailed Description Text (7):
The reactants described in Table I with 1.0% by weight 2-hydroxy-2-methyl-1-phenyl-1-propanone were poured into round 8.9 cm diameter polyethylene trays at a depth of about 1.9 cm and irradiated with the broad spectrum ultraviolet lamp described in Example 1 for 20 minutes while purging with nitrogen gas. The gels obtained were removed from the trays, inverted and again irradiated with the same light source for 20 minutes. The discs of polymer obtained were ground using a mechanical blender to an average particle size of about 850 microns. From 2.5 to 30.0 percent by weight polymer was mixed with a solution of 80/20 ww

glycerol/water using a spatula to provide 10 g samples. The percent gel swell, clarity, cohesive strength, flowability, tack and stringiness of each sample was evaluated and is recorded in Table I. Percent gel swell was measured by mixing from 2.5% to 30% by weight of powdered polymer of an average particle size of 850 microns in a solution of 80:20 ww glycerol/water to yield 20 gm total solution weight. The solutions were placed in 20 ml glass vials. The gels were allowed to settle to the bottom of the vials. The % gel swell is reported as the % volume of the solution that the swollen gel occupies. Cohesive strength was measured by pulling the plasticized gel apart by hand and assigning a number on a linear scale between 0 and 4 to the ease with which the gel was pulled apart. A value of 0 corresponded to the cohesive strength of a 80:20 percent by weight solution of glycerol in water. A value of 4 corresponded to the cohesive strength of a marshmallow. Flowability was measured by tactile perception and assigned a number on a scale of 0 for poorly deformable (i.e., recovers completely or substantially completely when deformed) to 5 for runny (i.e., equivalent to the flowability for 80:20 percent by weight solution of glycerol in water). Tack was measured by tactile perception and assigned a number on a scale of 1 for a tack equivalent to that of a 80:20 percent by weight solution of glycerol in water, to 5 for a tack equivalent to that of "Scotch.RTM. brand Magic Mending Tape", commercially available from 3M Co., St. Paul, MN. Stringiness, i.e., elongation observed before break, was measured by pulling 5 g of the gel apart by hand, and assigned a number on a scale of 1 to 5 to the length of the gel string before break. A stringiness of 1 was equivalent to that of a 80:20 percent by weight solution of glycerol in water. A stringiness of 2 meant that the elongation of the string before break was about 1.0 cm. A stringiness of 3 meant that the elongation of the string before break was about 2.5 cm. A stringiness of 4 meant that the elongation of the string before break was about 7.5 cm., and a stringiness of 5 meant that the elongation of the string before break was greater than 7.5 cm.

Detailed Description Text (8):
The desired properties of the gels for purposes of this invention are 100% gel swell, slight to high cohesive strength (values of 1-4), very flowable to deformable, (values of 1-5), slight to very tacky (values of 3-5) and slight to no stringiness (values 1-3). The optimal choice of these properties will depend on the desired application. For example, the compositions of Examples 25, 26, 27, 31 and 32 would be particularly useful as catheter sealants, once formulated with an antimicrobial. The composition of Examples 25 and 30 would have use as caulkable catheter sealants. The compositions of Examples 17 and 22 would be useful as teat plugs. The compositions of Examples 25, 26, 27, 31 and 32 when utilized with an appropriate backing and formulated with an antimicrobial would have use as wound or burn dressings.

Detailed Description Text (11):
In a comparative set of experiments the formulations of Table I were polymerized in solution with 33.2 parts of glycerol and 8.4 parts of water, according to the procedure of Example 1. The cured gels showed the same trend of properties as is recorded in Table 1, except that approximately twice as much crosslinker was required to obtain similar properties.

Detailed Description Text (23):
Mixtures of 8.3 parts glycerol, 2.1 parts of a solution of 20 percent by weight chlorhexidine gluconate in water, 5.0 parts of N-vinyl-2-pyrrolidone, 0.05 parts of 2-hydroxy-2-methyl-1-phenyl-1-propanone and 0.004, 0.008 or 0.016 parts of 3 3'-thylidene bis(N-vinyl-2-pyrrolidone) respectively, was irradiated with the ultraviolet light source of Example 1 at a distance of 40 cm through a 0.5 cm quartz plate for about 20 minutes. The polymer layers were about 3 mm thick and were in each case soft, conformable gels with good adhesive characteristics. As the concentration of 3,3'-ethylidene bis (N-vinyl-2-pyrrolidone) increased, the resistance to flow of the resulting gel increased according to tactile perception.

Detailed Description Text (25):
Mixtures of 8.3 parts of glycerol, 2.1 parts of water, 5.0 parts of N-vinyl-2-pyrrolidone, 0.05 parts of 2-hydroxy-2-methyl-1-phenyl-1-propanone, 0.077 parts of parachlorometaxylenol and 0.004, 0.008 or 0.016 parts of 3,3,'-ethylidene bis(N-vinyl-2-pyrrolidone), respectively were irradiated with the ultraviolet lamp

of Example 1 at a distance of 40 cm through a 0.5 cm quartz plate for about 20 minutes. The polymer layers were about 3 mm thick and were in each case soft, conformable gels with good adhesive characteristics. As the concentration of 3,3'-ethylidene bis(N-vinyl-2-pyrrolidone) increased, the resistance to flow of the gel increased as measured by tactile perception.

Detailed Description Text (27):
To 1.0 part of a solution of 20 parts of iodine and 24 parts of sodium iodide in 56 parts of glycerol, 4.47 parts of glycerol and 3 72 parts of water was added 1 25 parts of the powdered polymer of Example 2, followed by thorough mixing. Within 5 minutes a plasticized gel was obtained. This gel is particularly useful as a catheter sealant.

Detailed Description Text (29):
Using powdered polymer obtained in Example 2, a series of gels was obtained by varying the amount of polymer in the gel, the glycerol-water ratio and the percent iodine and sodium iodide present. The iodine:sodium iodide ratio was maintained at 20:24. The properties of these gels are recorded in Table II.

Detailed Description Text (30):
Cohesive strength, flowability, tack and stringiness were measured according to the procedure described in Examples 3-42. Flow time was the time in seconds to extrude one milliliter of gel through a three millimeter diameter hole in a polypropylene sheet 8 millimeters thick using an extrusion pressure of 775 grams per 1.8 cm.sup.2.

Detailed Description Text (33):
A gel was prepared by blending 12.5 parts of the polymer of Example 48 with 70 parts of glycerol and 17.5 parts of water. After standing for about 16 hours at 20.degree. C., the properties of the gel were evaluated and assigned a number, as in Examples 3-42.

Detailed Description Text (38):
If an antimicrobial were added, this gel would be particularly useful as a catheter sealant.

Detailed Description Text (40):
A gel was prepared by blending 2.0 g of the polymer of Example 44 with 0.50 g of a solution of 20% by wt. chlorhexidine gluconate in water, 0.75 g of glycerol and 1.75 g of water. After standing for about 16 hours at 20.degree. C., the properties of the gel were evaluated and assigned a number as in Examples 3-42.

Detailed Description Text (45):
This gel is particularly useful as a catheter sealant

Detailed Description Text (47):
A gel was prepared by blending 1.0 g of the polymer of Example 45 with 0.1 g of iodine and 0.2 g of sodium iodide premixed with 2.06 g of glycerol and 1.64 g of water. After standing for about 16 hours at 20.degree. C., the properties of the gel were evaluated and assigned a number as in Examples 3-42

Detailed Description Text (52):
This gel is particularly useful as a catheter sealant.

Detailed Description Text (54):
A gel was prepared by blending 1.0 g of the polymer of Example 46 with 0.1 g of iodine and 0.2 g of sodium iodide premixed in 2.06 g of glycerol and 1.64 g of water. After standing for about 16 hours at 20.degree. C., the properties of the gel were evaluated and assigned a number as in Examples 3-42.

Detailed Description Text (59):
This gel is particularly useful as a catheter as a sealant.

Detailed Description Text (61):
A gel was prepared by blending 2.0 g of the polymer of Example 47 with 0.1 g of

iodine and 0.2 g of sodium iodide premixed with 1.56 g of glycerol and 1.14 g of water. After standing for about 16 hours at 20.degree. C., the properties of the gel were evaluated and assigned a number as in Examples 3-42.

Detailed Description Text (66):
This gel is particularly useful as a catheter sealant.

Detailed Description Text (68):
A square (2.54 cm.times.2.54 cm.times.0.32 cm) of the gel of Example 1 was soaked for four hours in excess water, then soaked for four hours in 100 parts acetone per part of gel. This soaking procedure was repeated three times. The gel was then dried and placed in a solution of 159.6 parts of glycerol, 40.4 parts of water, 2.4 parts of sodium iodide and 2.0 parts of iodine for 24 hours. The resulting gel contained 2 percent iodine. The gel was soft, conformable and adhesive. This gel is particularly useful as a catheter sealant.

Detailed Description Text (70):
A square (2.54 cm.times.2.54 cm.times.0.32 cm) of the gel of Example 1 was acetone washed and dried for three hours in an oven at 65.degree. C. The gel was then soaked for 24 hours in a solution of 79.8 parts of glycerol and 20.2 parts of 20 percent chlorhexidine gluconate in water. The gel was soft, conformable and adhesive This gel is particularly useful as a catheter sealant or a teat plug for cows.

Detailed Description Text (72):
Three square gel pieces 2.54 cm by 2.54 cm by 3 mm thick were prepared according to the procedure of Example 1, and acetone washed and dried The gels were soaked for 24 hours in a solution containing 13.4 g of water, 52.9 g of glycerol, 0.5 g of neomycin sulfate, 40,000 U.S P. units of bacitracin and 500,000 units of polymyxin B sulfate. Excess solution was then wiped away. The gels obtained were soft, conformable and adhesive.

Detailed Description Text (73):
This gel is particularly useful as a teat plug for cows or a catheter sealant

Detailed Description Text (75):
To a solution of 69.1 parts of glycerol, 18.3 parts of water, 2.12 parts of iodine, 4.25 parts of sodium iodide, 0.52 parts of citric acid and 1.37 parts of disodium hydrogen phosphate, was added 12.5 parts of powdered polymer prepared according to Example 2 followed by thorough mixing. This procedure provided a gel with a pH value of 6.2. This gel is particularly useful as a catheter sealant.

Detailed Description Text (77):
A series of gels was prepared which included a surfactant at various levels. The gels were prepared from 7 parts of glycerol, 1.75 parts of water, 1.25 parts of the polymer of Example 2 and a polyoxypropylene-polyoxyethylene block copolymer, commercially available as "Pluronic.RTM. F-68 Surfactant" from BASF Corp., Parsippany, N.J.

Detailed Description Text (78):
The adhesive shear strength of these gels to a silicone rubber (commercially available as "Dow Corning Silastic.RTM. Silicone Rubber MD/GR VUL/NR-020" from Dow Corning Corp., Hemlock, MI.) was evaluated using a variation of ASTM method D3164-73 (incorporated herein by reference) wherein the jaw speed of the Instron (Model 1122) was 12.7 cm/min and the overlap of the gel film was 3.2 cm.sup.2. The results are reported in Table III.

Detailed Description Text (80):
2.5 g of the polymer of Example 2, was swollen with 5.25 g of isopropanol and 2.25 g of deionized water to provide an adhesive gel. The isopropanol serves as an antimicrobial agent as well as a plasticizer. The mixture was very adhesive and transparent. It has particular utility as a fast skin prepping dressing.

Detailed Description Text (82):
2.0 cm.sup.3 of the polymer gel film of Example 1 was soaked for 24 hours in 79.8 parts glycerol and 20.2 parts of a solution of 20% by wt. chlorhexidine gluconate in

water.

Detailed Description Text (83):
EXAMPLE 93 2.0 cm.sup.3 of the polymer gel film of Example 1 was soaked for 24 hours in 20.2 parts water, 79.8 parts glycerol, 4.7 parts parachlorometaxylenol, and 0.4 parts ethylenediaminetetraacetic acid.

Detailed Description Text (85):
2.0 cm.sup.3 of the polymer gel film of Example 1 was soaked for 24 hours in 40.4 parts water, 159.6 parts glycerol, 0.6 parts sodium iodide and 2.0 parts iodine.

Detailed Description Text (87):
2.0 cm.sup.3 of the polymer gel film of Example 1 was soaked for 24 hours in 40.4 parts water, 159.6 parts glycerol, 2.4 parts sodium iodide and 2.0 parts iodine.

Detailed Description Text (89):
2.0 cm.sup.3 of the polymer gel film of Example 1 was soaked for 24 hours in 13.4 g water, 52.9 g glycerol, 0.5 g neomycin sulfate, 40,000 units zinc bacitracin and 500,000 units polymyxin B sulfate.

Detailed Description Text (91):
Five antimicrobial gels of the invention were used to evaluate antimicrobial activity. A standard containing no antimicrobial agent was prepared by soaking 2.0 cm.sup.3 of the polymer gel of Example 1 in 79.8 parts glycerol and 20.2 parts water for 24 hours. An in vitro test, the Ulrich Procedure (Infection in Surgery, Aug., 1984, 569-574), incorporated herein by reference, for evaluating antimicrobial activity versus Staphylococcus aureus No. 319 with a 90 minute exposure was used. The results are shown in Table IV.

Detailed Description Text (94):
2.0 cm.sup.3 of the gel film of Example 1 was soaked for 24 hours in 40.4 parts water, 159.6 parts glycerol, 2.6 parts iodine and 4.8 parts of sodium iodide.

Detailed Description Text (96):
2.0 cm.sup.3 of the gel film of Example 1 was soaked for 24 hours in 70.67 parts water, 279.33 parts glycerol, 2.10 parts parachlorometaxylenol and 0.88 parts ethylenediaminetetraacetic acid.

Detailed Description Text (98):
The in-vivo antimicrobial activity of the gels of Examples 92, 95, 96, 98 and 99 was measured. The test method required the placement of each formulation on the backs of three subjects, who had been screened for high bacteria counts (greater than 3 logs), for a period of three days using the Williamson and Klugman scrub cup technique (J. Invest. Dermatol. 72, 165-170), incorporated herein by reference. Following this time the formulations were removed, residual antimicrobial agent neutralized, and the viable bacteria were removed and counted by the Williamson and Klugman scrub cup technique. The results are presented as an average of 6 replicates in Table V along with bacterial counts for certain known antimicrobial formulations.

Detailed Description Text (100):
This example illustrates the high moisture vapor transmission rates (MVTR) of the gels of this invention. The MVTR for the gel of Example 1 was compared with the MVTR for a segmented block polyester film, commercially available as "Hytrel.RTM. Film 4056" from Dupont de Nemours Co., Wilmington, Del., alone and laminated to an acrylate adhesive or the film of Example 1.

Detailed Description Text (102):
The MVTR was determined by measuring by weight loss of the vessel after 24 hours, at 41.degree. C. and 10% ambient relative humidity. The results are reported in Table VI. The gel of Example 1 had a very high MVTR (3800 g/m.sup.2 /24 hr). Note that the MVTR for the laminate of the gel of Example 1"Hytrel.RTM. Film" (2680 g/m.sup.2 /24 hrs) was higher than for the "Hytrel.RTM. Film" alone (1830 g/m.sup.2 /24 hr). This effect was not expected.

Detailed Description Text (103):
Apparently the gels of this invention surprisingly increase the "Hytrel.RTM. Films" affinity for water.

Detailed Description Text (105):
A mixture containing 12.5 g of the polymer of Example 2, 17.22 g of distilled water, 68.9 g of glycerol, 0.50 g of neomycin sulfate, 40,000 units (0.619 g) of zinc bacitracin and 500,000 units of polymyxin B sulfate was prepared. The mixture was placed on a 1 mil (0.0254 mm) film of "Hytrel.RTM. Film 4056" and covered with a silicone-coated paper release liner (commercially available as "Nat. 20 mg 10/10 IT/0", from Akrosil, Menasha, WI.) to form a laminate. The laminate was flattened using a hydraulic press to a thickness of 0.16 cm. The release liner was removed and the exposed gel was quite adhesive as determined by tactile perception. THe moisture vapor transmission rate of the laminate was about 2600 g/m.sup.2 /24 hour, when measured in accordance with the procedure of Example 99. This laminate would have use as a wound or burn dressing.

Detailed Description Text (109):
The gels of the invention show remarkable adhesion to both types of surfaces, with an optimum at 0.08 to 0.16 percent EBVP. It is very surprising that the hydrophilic adhesives of this invention adhere so well to a hydrophobic surface such as polyethylene.

Detailed Description Paragraph Table (1):
TABLE I

REACTANTS % Gel Swell (by volume) NVP.sup.1 EBVP.sup.2 Catalyst.sup.3 % Solids 15 30 1 2 24 6 Gel Cohesive Flow- String- Ex. (Parts) (Parts) (Parts) (by wt.) Min Min Hr. Hr. Hr. Days Clarity.sup.4 Strength ability Tack iness

3 100 0
1.0 2.5 5 10 20 20 20 20 0 0 5 1.0 1.0 4 100 0 1.0 5.0 10 30 30 30 30 40 0 0 5 1.0 1.0 5 100 0 1.0 10.0 20 60 60 80 50 100 0 0.5 5 3.0 5.0 6 100 0 1.0 20.0 50 95 100 100 100 100 0 1.0 5 4.0 5.0 7 100 0 1.0 30.0 100 100 100 100 100 100 1 2.0 5 5.0 5.0 8 100 0.02 1.0 2.5 5 10 10 10 20 40 0 0 5 1.0 1.0 9 100 0.02 1.0 5.0 10 20 40 40 40 100 0 0.5 5 3.0 3.0 10 100 0.02 1.0 10.0 20 50 80 90 90 100 0 1.0 5 3.0 5.0 11 100 0.02 1.0 20.0 80 95 100 100 100 100 0 1.5 5 4.0 5.0 12 100 0.02 1.0 30.0 100 100 100 100 100 100 2 1.5 5 5.0 5.0 13 100 0.04 1.0 2.5 10 20 25 25 30 80 0 0 5 1.0 1.0 14 100 0.04 1.0 5.0 30 50 50 50 60 100 0 0 5 2.0 3.0 15 100 0.04 1.0 10.0 80 90 90 95 90 100 0 1.0 5 3.0 5.0 16 100 0.04 1.0 20.0 100 100 100 100 100 100 2 2.0 5 4.0 5.0 17 100 0.04 1.0 30.0 100 100 100 100 100 100 3 3.5 2 5.0 5.0 18 100 0.08 1.0 2.5 20 30 30 30 30 100 0 0.5 5 1.0 3.0 19 100 0.08 1.0 5.0 50 50 50 70 80 100 0 0.5 5 1.0 4.0 20 100 0.08 1.0 10.0 70 80 90 100 100 100 1 1.0 3 3.0 5.0 21 100 0.08 1.0 20.0 100 100 100 100 100 100 2 2.0 3 4.0 5.0 22 100 0.08 1.0 30.0 100 100 100 100 100 100 3 3.5 1 5.0 5.0 23 100 0.16 1.0 2.5 10 20 30 30 50 90 2 0 5 1.0 1.0 24 100 0.16 1.0 5.0 50 80 100 100 100 100 2 0 5 2.0 2.0 25 100 0.16 1.0 10.0 100 100 100 100 100 100 2 0.5 2 3.0 2.0 26 100 0.16 1.0 20.0 100 100 100 100 100 100 2 2.0 1 4.0 2.5 27 100 0.16 1.0 30.0 100 100 100 100 100 100 3 3.5 1 4.5 2.5 28 100 0.32 1.0 2.5 10 20 30 30 40 80 2 0 5 1.0 1.0 29 100 0.32 1.0 5.0 50 80 90 100 100 100 2 0 5 1.0 1.0 30 100 0.32 1.0 10.0 100 100 100 100 100 100 2 0.5 2 2.0 1.0 31 100 0.32 1.0 20.0 100 100 100 100 100 100 3 1.0 1 3.0 1.0 32 100 0.32 1.0 30.0 100 100 100 100 100 100 3 1.0 0 3.0 1.0 33 100 0.64 1.0 2.5 20 20 20 20 30 30 2 0 5 1.0 1.0 34 100 0.64 1.0 5.0 40 40 40 80 90 90 2 0 5 1.0 1.0 35 100 0.64 1.0 10.0 100 100 100 100 100 100 2 0 2 1.0 1.0 36 100 0.64 1.0 20.0 100 100 100 100 100 100 3 0.5 1 1.5 1.0 37 100 0.64 1.0 30.0 100 100 100 100 100 100 3 0.5 0 1.0 1.0 38 100 1.28 1.0 2.5 20 20 20 20 30 20 2 0 5 1.0 1.0 39 100 1.28 1.0 5.0 30 30 40 50 70 70 2 0 5 1.0 1.0 40 100 1.28 1.0 10.0 60 70 80 90 100 100 2 0 2 1.0

Detailed Description Paragraph Table (6):
TABLE V

Antimicrobial Log Example (% by wt.) Reduction % Kill

92 2.8% Chlorhexidine 1.53 97.0 Gluconate 95 1.1% Iodine 1.80 98.4 1.2% Sodium Iodide 96 Neomycin Sulfate/ 2.19 99.4 Zinc Bacitracin/ Polymyxin B Sulfate.sup.3 98 1.3% Iodine 1.99 99.1 2.4% Sodium Iodide 99 0.4% PCMX.sup.1 1.13 92.6 0.17% EDTA.sup.2 Efodine .RTM. 1% Iodine 0.91 87.7 ointment.sup.4 Tegaderm .RTM. 2% Iodine 0.77 83.0 Plus 2.4% Sodium Iodide Transparent IV Dressing.sup.5 Neosporin Neomycin Sulfate -0.20 Regrowth Ointment.sup.6 Zinc Bacitracin (+58.5) Polymyxin B Sulfate.sup.3

_____ .sup.1 Parachlorometaxylenol .sup.2 Ethylenediaminetetraacetic Acid .sup.3 In a concentration sufficient to provide that each gram of gel contains 5 mg neomyoin sulfate, 400 units zinc bacitracin and 5,000 units polymyxin B sulfate. .sup.4 commercially available from Fougera and Co., Melville, N.Y. .sup.5 commercially available from 3M Co., St. Paul, MN. .sup.6 commercially available from Burroughs Wellcome Co., Research Triangle Park, N.C.

CLAIMS:

15. A wound or burn dressing laminate comprising a layer of the composition of claim 1 and a layer of a moisture vapor permeable backing sheet suitable for use in a surgical dressing.

16. The wound or burn dressing of claim 15, wherein said N-vinyl lactam monomer is present in a concentration of about 5-45 percent by weight of said sealant composition.